BLM

Stillwater Field Office, Nevada

ENVIRONMENTAL ASSESSMENT

Summit Spring Reconstruction Project

DOI-BLM-NV-C010-2013-0006-EA

U.S. Department of the Interior
Bureau of Land Management
Carson City District
Stillwater Field Office
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It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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1.0 INTRODUCTION/PURPOSE AND NEED

1.1 Introduction

The Bureau of Land Management (BLM), Carson City District (CCD), Stillwater Field Office (SFO) is proposing the removal and replacement of the existing riparian enclosure fence, spring head box, water pipeline and troughs that were originally constructed and have been repaired and maintained countless times over the last 36 years. The existing range improvement conditions at Summit Spring located at T. 11 N, R. 28 E., section 18 S/W ¼, on the west face of the Wassuk Mountain Range, Mineral County Nevada, are beyond regular maintenance and require removal and reconstruction to sustain the efficiency of the range improvement and prevent the continual heavy degradation of the spring source and adjacent riparian habitats. Summit Spring is located within the administrative jurisdiction of the BLM CCD.

This Environmental Assessment (EA) is a site-specific analysis of potential impacts that could result from the implementation of the Proposed Action and No Action Alternative. Preparation of this EA will assist the BLM Stillwater Field Office (SFO) during project planning and ensures compliance with the National Environmental Policy Act (NEPA). Preparation of an EA enables the authorizing officer to determine if significant impacts could result from implementing the Proposed Action or No Action Alternative.

Should the determination be made that implementation of the Proposed Action would not result in "significant environmental impacts" or "significant environmental impacts beyond those already addressed in the Resource Management Plan/Environmental Impact Statement (RMP/EIS) and Management Framework Plans", a Finding of No Significant Impact will be prepared to document that determination, and a Decision Record (DR) will be issued providing the rationale for approving the selected alternative.

1.2 Background

The project area is located at Summit Spring in Mineral County, Nevada. To reach Summit Spring travel south along the East Walker River Road then turn left on BLM road number 3020. Stay on BLM 3020 for approximately 12 miles to Summit Spring (See Map in Appendix). Summit Springs was incorrectly named on the current BLM 2006 Surface Management Status 1:100,000-Scale Topographic Map as Abraham Spring and will be corrected during the next BLM map updating cycle. Four (4) other springs in the area were also affected by this mistake. A water trough located along the Buck brush pipeline was incorrectly identified as Buck Brush Spring. The springs to the south were then miss-named. This spring nomenclature has been identified and should be corrected during the next BLM map update and reprinting cycle.

The project area is within the Wassuk Wild Horse Herd Management Area (HMA). The permitted livestock operator has voluntarily not grazed in this area of the Gray Hills Livestock Grazing allotment since 2002, due to the over utilization of forage and spring source degradation by wild horses compounded by drought conditions. The continual increasing number of wild horses has increased pressure on the riparian fence, causing the wire and T-posts to bend and break. The current condition of the range improvement structures increases the occurrence of

injuries to the wild horses from wire cuts and/or entanglement in the loose barbed wire. It is unknown how many horses have been severely injured on the fence; however in the past year three (3) horses have become entangled in wire resulting in fatalities. The fence is down in multiple sections allowing horses to move about within the riparian area. The riparian vegetation has been nearly depleted leaving the bare soil highly susceptible to erosion. The water quality of the spring is also impacted due to the lack of vegetation and continual soil compaction from trampling by the horses.

The original pipeline was constructed in 1966 but was not analyzed under the National Environmental Policy Act (NEPA). NEPA was not a federal requirement in 1966. A cultural resource inventory was not conducted for the 1966 pipeline. An Environmental Analysis Record for the Summit Springs Fence and Gully Plugs (NV-030-6-76) was completed in 1976; however the Decision/Rational was not signed until February 1979. After the Decision Rational was signed in 1979 the existing enclosure fence was added to the original 1966 spring head box, pipeline and troughs. The pipeline was extended by the BLM and permittee in 1981 to provide water to Pumpkin Hallow. The Summit Spring Pipeline and Tank Extension EA dated November 16, 1981 and cultural inventory number 670 (N) and 3-676 (N) was completed for the 1981 extension.

The fence received heavy maintenance in 2006 and cultural monitoring was conducted again at that time. All existing project structures within the project area have been maintained and repaired numerous times since the 1966 construction. The current condition of the range improvement fence (# 6057) and riparian pipeline are beyond heavy maintenance and require removal and reconstruction to reestablish the efficiency of the range improvement, prevent the continual degradation of the spring source and riparian habitat.

1.3 Purpose and Need

The purpose of the Proposed Action is to improve the availability, quantity and quality of wet meadow/riparian habitat, provide a dependable water source for wildlife, wild horses, and livestock to ensure healthy rangelands. The proposed action would restore a multiple use relationship between livestock, wild horses and wildlife within this portion of the Gray Hills Grazing Allotment. Renovating the existing Summit Spring range improvement would reduce impacts to the riparian area and reduce wild horse injuries and fatalities resulting from cuts and entanglements in the existing barbed wire fences.

The Proposed Action would allow the BLM to make progress in attaining the management objectives identified in the Carson City Consolidated Resources Management Plan (CRMP) and the Standards for Rangeland Health & Guidelines for Grazing Management (S&Gs) in the Sierra Front Northwestern Great Basin Area.

1.4 Land Use Plan Conformance Statement

The Proposed Action and alternatives described below are in conformance with the Resource Management Plan and Final Environmental Impact Statement Walker Resource Area (1985) and the Carson City District Office Consolidated Resource Management Plan (CRMP) 2001. CRMP

Livestock Grazing pages LSG-1 and LSG-2 and desired outcomes for Livestock Grazing are listed below:

1. Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland and watershed values.
2. Provide adequate, high quality forage for livestock by improving rangeland condition.
3. Improve overall range administration.
4. Maintain a sufficient quality and diversity of habitat and forage for livestock, wildlife, and wild horses through natural regeneration and or vegetation manipulation methods.
5. Improve the vegetation resource and range condition by providing for the physiological needs of key plant species.
6. Reduce soil erosion and enhance watershed values by increasing ground cover and litter.
7. Improve and maintain the condition of the riparian habitat.

1.5 Relationships to Statutes, Regulations, Other Plans and Environmental Analysis Documents

The Proposed Action is consistent with Federal laws and regulations, plans, programs and policies of affiliated tribes, other Federal agencies, State and local governments including the following documents:

- Taylor Grazing Act of 1934, as amended
- The National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994)
- Federal Land Policy and Management Act (FLPMA) of 1976 (43 U.S.C. §§ 1701-1782, October 21, 1976, as amended 1978, 1984, 1986, 1988, 1990-1992, 1994 and 1996)
- Public Rangelands Improvement Act of 1978 (43 U.S.C. § 1901)
- Title 43 of the Code of Federal Regulations Subpart 4100 – Grazing Administration
- Noxious Weed Act of 1974
- The Endangered Species Act of 1973 (16 U.S.C. §§ 1531-1544, December 28, 1973, as amended 1976-1982, 1984, and 1988)
- Standards and Guidelines (S&Gs) for Nevada's Sierra Front-Northwestern Great Basin Area (2003)
- Migratory Bird Act – E.O. 13806
- Native American Graves Protection and Repatriation Act, 1990
- American Indian Religious Freedom Act of 1979
- National Historic Preservation Act (Public Law 89-665; 16 U.S.C. 470 as amended through 2000)
- Archaeological Resources Protection Act of 1979, As Amended (Public Law 96-95; 16 U.S.C. 470aa-mm)
- Wild Free-Roaming Horse and Burro Act (WFRHBA as amended) of 1971
- Clean Water Act of 1972
- Environmental Analysis Record Summit Springs Fence and Gully Plugs (NV-030-6-76)
- EA Summit Spring Pipeline extension and Tank Spring Pipeline Extension dated November 16, 1981
- Final Multiple Use Decision (FMUD) for the Wassuk Herd Management Area (Black Mountain, Gray Hills, and Butler Mountain Allotments Evaluations) 1997

1.6 Decision to Be Made

The BLM authorizing officer would determine whether or not to implement the proposed action in order to improve the riparian condition at Summit Spring and to provide water for horses outside of the riparian zone. The authorizing officer's decision would not set or adjust Animal Unit Months (AUM's) of livestock or wild horses, as these were set through prior public decision-making processes.

2.0 THE PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The BLM SFO is proposing the Summit Spring Reconstruction Project which would entail removing and replacing the existing four (4) strand barbed wire and T-post fence with 2 and 3/8 inch diameter galvanized post and steel cables. The pipes would be approximately 8 feet long and driven into the ground to a depth of approximately 3 feet and set at a distance of 10 feet apart. Three strands of half inch cable would be evenly spaced and attached to the galvanized pipe using eye bolts. The top cable would be 56 inches above the ground and the bottom cable would be 16 inches above the ground. Another horizontal galvanized pipe may be welded to the top of the vertical galvanized post, should the three steel horizontal cables prove insufficient at eliminating horse access from the riparian enclosure. The new fence would be built in the same location as the existing fence and would be approximately 2,950 feet in length.

The water trough and pipeline would be moved to reduce the pipeline length between the spring box and trough (See Map 3 in Appendix). The trough would be moved away from the existing road to allow the wild horses additional open space for escape if startled while watering at the reconstructed project.

The spring box would be replaced as needed and water would be furnished (piped) to water troughs outside of the fenced riparian area. Water overflow from the stock trough would be piped back into the riparian system. All removed old, non-functioning pipe, fencing material and project debris would be disposed of properly at a legal landfill facility.

2.2 The No Action

Under the No Action Alternative the proposed action would not occur, the existing fence would continue to not be effective and unmaintainable with numerous sections of downed fence and wire that allow wild horses to travel freely through the north and south portions of the fenced riparian area. The No Action alternative would not protect the riparian area from over grazing, heavy soil compaction and trampling resulting from the wild horse use. The wild horses would still be susceptible to injuries and possible fatalities resulting from wire cuts and fence entanglements.

Implementation of the No Action Alternative does not meet the purpose and need for the project, the objectives and goals of the CRMP and other applicable plans related to the resources present in the project area. Even though this alternative doesn't meet the purpose and need, it is

analyzed further in this EA in order to provide a baseline for assessing impacts from the Proposed Action.

2.3 Alternatives Considered But Eliminated From Further Analysis

Maintain Current Fence and Pipeline
The alternative to maintain the fence as a T-post, four (4) strand barbed wire fence, has proven to be inadequate to protect the riparian area enclosure, range improvement project as well as protecting the wild horses from injuries and fatalities. With the continuation of this Alternative the wild horses would continue to pressure the fence resulting in more wire cut injuries and wire entanglements that have caused injuries and fatalities in the past.

The pipeline is completely non-functional. It has been replaced, patched and re-patched and modified twice and still does not transport water efficiently. It is reasonable to say that the current pipeline would not function without complete replacement. Therefore this alternative will not be carried forward for further analysis in this document.

Remove Fence and Pipeline Completely
Removing the fence and pipeline would resolve the risk of injury to the wild horses in the foreseeable future however the range improvement and spring/ riparian area would become completely de-graded by overutilization and trampling. The water quality would continue to deteriorate and the water supply would continue to decline in volume. This alternative could also remove an established source of water utilized by wildlife in the region. This alternative would not meet the purpose and need statement or be in compliance with the CRMP. Therefore, this alternative will not be carried forward for further analysis in this document.

3.0 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This chapter identifies and describes the current condition and trend of elements or resources in the human environment which may be affected by the Proposed Action or Alternatives and the environmental consequences of effects of the actions.

Scoping and Issue Identification
In accordance with the BLM's NEPA Handbook (H-1790) (BLM, 2008) internal scoping was conducted by an interdisciplinary team (ID) of BLM resource specialists in May 2012 to identify potential resources that may be impacted by the implementation of the Proposed Action or No Action Alternative. The following resources where identified by the BLM ID team as not being present or are present but not effected in the project area and will not be analyzed in this EA.

- Air Quality
- Areas of Critical Environmental Concern
- Cultural
- Environmental Justice
- Farm Lands Prime and Unique
- Flood Plains
- Noxious and Invasive, non-native species
- Migratory birds
- Native American religious concerns
- Threatened or endangered species
- Wastes, Hazardous or Solid
- Wild and Scenic Rivers

- Wilderness
- BLM Sensitive Species (animal and plant)
- Forest resources
- General Wildlife
- Land Use Authorization
- Lands with Wilderness Characteristics
- Livestock Grazing
- Minerals
- Paleontological
- Recreation
- Socioeconomics
- Travel Management
- Vegetation
- Visual Resources
- Global Climate Change
- Greenhouse Gas Emissions

External scoping was performed with the Walker River Native American Tribe regarding the possibility of Native American religious concerns or any other impacts that could result from the Proposed Action.

A concerned public has notified the BLM about the hazards of the fence. They have requested something be done to protect the wild horses.

Project Area (General Setting)
Range improvement number 6057 is located at Summit Spring with a legal description of T.11 N, R.28 E., section 18 S/W ¼, on the west face of the Wassuk Mountain Range, Mineral County Nevada. Summit Spring was developed as a water source for livestock grazing in 1966, in the Pumpkin Hallow portion of the Gray Hills Livestock Grazing Allotment. The Wassuk HMA was later established and includes the project area. The area is dominated by Wyoming Sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), Bud sage (Picrothamnus desertorum), Winterfat (*Krascheninnikovia lanata*) and Cheat grass. The elevation of the project area is approximately 2,000 feet above mean sea level.

Supplemental Authorities
Appendix 1 of BLM's NEPA Handbook (H-1790-1) identifies Supplemental Authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents. The table below lists the Supplemental Authorities and their status in the project area. Supplemental Authorities that may be affected by the Proposed Action are further described in this EA.

Table 3-1. Supplemental Authorities

Resource or Issue	Present Yes/No	Affected Yes/No	Rationale
Air Quality	Yes	No	During implementation of the Proposed Action, there would be a slight increase in vehicle emissions and particulates from construction activities and equipment. Overall air quality, however, would not be affected. None of the anticipated impacts to Air Quality would be anticipated to exceed the National Ambient Air Quality Standards.

Resource or Issue	Present Yes/No	Affected Yes/No	Rationale
Areas of Critical Environmental Concern	No		None present in the project area.
Cultural Resources	Yes	No	The area has been previously disturbed to the point that any culturally significant artifacts have been lost. If any new artifacts are uncovered during the installation process, work will stop and the BLM archeologist will be notified at once.
Environmental Justice	No		No minority or low income populations would be adversely affected by the Proposed Action.
Farm Lands (Prime and Unique)	No		None present in the project area.
Floodplains	No		None present in the project area.
Noxious and Invasive, Non-native Species	Yes	No	Indirectly, the proposed action would help to prevent/decrease the noxious and invasive, non-native species population by improving the vegetative community.
Migratory Birds	Yes	No	The habitat is severely degraded and any impacts from the Proposed Action would be expected to be beneficial to migratory birds as it would help to improve the vegetative community.
Native American Religious Concerns	No		The Walker River Native American Tribe was sent a letter describing the project. No comments have been received to date, however consultation is considered ongoing.
Threatened or Endangered Species	No		After consulting with the BLM wildlife biologist and the USFWS website for Nevada, there are no federally listed threatened or endangered species within the project area (http://www.fws.gov/nevada/protected_species/species_by_county.html).

Resource or Issue	Present Yes/No	Affected Yes/No	Rationale
Wastes, Hazardous or Solid	Yes	No	Only small quantities of hazardous and/or solid wastes would be generated by the proposed action. All hazardous materials would be transported, used, and stored following "best management practices" and in accordance with local, state, and federal regulations. All wastes would be disposed of offsite following all local, state, and federal regulations. Any spill of hazardous materials would be contained, remediated, and disposed of following all local, state, and federal regulations. Therefore there would not be any impacts to wastes from implementation of the Proposed Action.
Water Quality, Surface/Ground	Yes	Yes	Carried forward for analysis in section 3.1.
Wetlands/Riparian Zones	Yes	Yes	Carried forward for analysis in section 3.2.
Wild and Scenic Rivers	No		None present in the project area.
Wilderness	No		None present in the project area.

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**See H-1790-1 (January 2008) Appendix 1 Supplemental Authorities to be Considered. Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the documents. Supplemental Authorities determined to be Present/May Be Affected may be carried forward in the document.*

RESOURCES OR USES OTHER THAN SUPPLEMENTAL AUTHORITIES

The following resources or uses, which are not Supplemental Authorities as defined by BLM's Handbook H-1790-1, are present in the area. BLM specialists have evaluated the potential impact of the Proposed Action on these resources and documented their findings in the table below. Resources or uses that may be affected by the Proposed Action are further described in this EA.

Table 3-2. Resources or Uses Other Than Supplemental Authorities.

Resource or Uses	Present Yes/No	Affected Yes/No	Rationale
BLM Sensitive Species (animal)	No		None present in the project area.
BLM Sensitive Species (Plant)	No		None present in the project area.
Forest Resources	No		None present in the project area.

Resource or Uses	Present Yes/No	Affected Yes/No	Rationale
General Wildlife	Yes	No	The Proposed Action would improve the riparian habitat and is expected to be beneficial to wildlife.
Land Use Authorization	No		None present in the project area.
Lands with Wilderness Characteristics	No		None present in the project area.
Livestock Grazing	Yes	No	Construction of the new fence enclosure would not directly impact livestock grazing as the permittee has taken voluntary non-use in this portion of the grazing allotment since 2002.
Minerals	No		Mineral resources would not be impacted by the Proposed Action as there are none known in the project area.
Paleontological	No		None have been observed in the project area.
Recreation	Yes	No	No changes to the recreation setting or access would occur as the fence is already in place.
Socioeconomics	No		The Proposed Action would not contribute to any population growth/reduction nor would it create any new jobs or tax base to the local communities. Therefore, Socioeconomics would not be impacted by the Proposed Action.
Soils	Yes	Yes	Carried forward for analysis in Section 3.3.
Vegetation	Yes	No	The Proposed Action would not impact vegetation resources in the project area as the current vegetation is in poor condition or removed from the project area.
Visual Resources	Yes	No	The proposed action would result in minimal changes in landscape character. All alternatives are consistent with VRM Class III and IV objectives.
Wild Horses and Burros	Yes	Yes	Carried forward for analysis in section 3.4.

Resource or Uses	Present Yes/No	Affected Yes/No	Rationale
Global Climate Change	Yes	No	There is a public and scientific debate about human-caused contributions to global climate change, no methodology currently exists to correlate greenhouse gas emissions (GHG) and to what extent these contributions would contribute to such climate change.
Greenhouse Gas Emissions	Yes	No	There would be negligible contribution of GHG-methane; no methodology currently exists to correlate GHG emissions from livestock grazing to any specific resource impact within the project area.

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***Resources or uses determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document. Resources or uses determined to be Present/May Be Affected may be carried forward in the document.*

Resources Present and Brought Forward For Analysis

The potential impacts to the resources listed in Table 3-1 and Table 3-2 were evaluated in accordance with criteria listed above to determine if detailed analysis was required. Through this process, the interdisciplinary team determined that the following resources are present and that the potential impacts to them warrant detailed analysis in the EA:

- Water Quality
- Wetlands/Riparian Zones
- Soil
- Wild Horse and Burros

Rationale is provided in Table 3-1 Supplemental Authorities and Table 3-2 Resources or Uses Other Than Supplemental Authorities for resources that are present but whose impacts do not warrant detailed analysis based on the criteria listed above.

3.1 Water Quality

Affected Environment

The current water quality of the spring is severely impacted by the high amount of wild horse use it has received in recent years combined with the drought conditions currently afflicting the resource. Vegetation has been removed from the banks leaving bare soil that is easily eroded and washed down stream. The water is pooled and left to stagnate in the many wild horse hoof prints that cover the entire trampled riparian zone. Due to the lack of vegetation the stream is unprotected from the sun and during the hottest periods of the summer the stream evaporates and shortens. The loss of water by evaporation reduces the size of the riparian zone and does not allow for adequate riparian plant regeneration.

Figure 1. Close up of water flow pattern at Summit Spring restricted by hoof print.

Environmental Consequences

Proposed Action

With the improved fence in place under the Proposed Action, the banks of the stream would be allowed to re-vegetate. Stream bank re-vegetaion would reduce the amount of sediment settling into the water. Additionally the revegetated stream banks would protect the water from the sun reducing evaporation allowing for a more consist water flow to the lower reaches of the stream. Natural vegetative protection would allow an aquatic natural balance of water and sediment to develop within the riparian system improving the regeneration of the natural occuring riparian plant species at spring. The water quality would be expected to improve with greater stream bank and riparian vegetation stablization and removed wild horse access.

No Action

The No Action alternative would allow continued pooling and stagnation of the water source. Riparian soils would continue to erode resulting in accelerated water runoff causing additional soil erosion and stream channelization. Once the water has channelized the riparian zone would narrow and lengthen, leaving the water exposed to the sun and a higher evaporating rate.

Cumulative Effects

When combined with the effects from past, present, and reasonably foreseeable future actions, cumulative effects from the proposed action is expected to be positive for the overall health and resilience of the riparian areas and water quality. Fencing around the riparian area is expected to help increase water quality and longevity.

3.2 Wetlands/Riparian Zones

Affected Environment

Riparian areas refer to the aquatic ecosystem and the portions of the adjacent terrestrial ecosystem that directly affect or are affected by the aquatic environment. Natural riparian areas

are associated with creeks, as well as various named and unnamed springs and spring brooks near the project area.

Riparian vegetation in this area (approximately 2 acres) are wet meadow species including bluegrass *(Poa spp)*, sedges *(Carex spp.)*, rush *(Juncus spp.)*, creeping wildrye *(Elymus triticoides)*, along with numerous grasses, forbs and wild rose (*Rosa woodsii*).

Environmental Consequences

Proposed Action

Under the proposed action the riparian area would be enclosed from wild horse grazing and allowed to re-vegetate. The enclosure fencing would provide rest to reestablish the riparian vegetation back to its natural condition. Allowing the vegetation to recover from over grazing by the wild horses would result in the gradual occurrence of the Proper Functioning Condition (PFC) of the riparian area.

No Action

Under the No Action Alternative, adverse impacts to riparian and wetland areas are expected to continue and increase over time with the continuation of wild horse use; without the benefits of a proper functioning Range Improvement structure. The opportunity for the reestablishment of desirable riparian species would continue to be reduced. High run-off events could impact the drainage and riparian area through soil deposition and erosion. The No Action Alternative would not assist the spring and riparian area in maintaining a PFC.

Cumulative Effects

When combined with the effects from past, present, and reasonably foreseeable future actions, cumulative effects from the proposed action is expected to be positive for the overall health and resilience of the riparian areas and water availability. Fencing around the riparian area is expected to increase riparian obligate vegetation and raise the water table. Managing for a variety of colonizer/stabilizer plant species spread through a complete spectrum of life-cycle stages would create a greater diversity in the riparian corridor.

3.3 Soils

Affected Environment

Soils have been mapped by the Natural Resources Conservation Service (NRCS), and have beendocumented in aSoil Survey. Detailed descriptions of the soils within the allotment can be found within the Mineral County Soil Survey, issued in 1991 by the U.S. Dept. of Agriculture-Soil Conservation Service.

Soils in riparian areas differ from soils in upland areas because they are formed from sediments with different textures and subjected to fluctuating water levels and degrees of wetness. These sediments are rich in nutrients and organic matter which allow the soils to retain large amounts of moisture, affecting the growth and diversity of the plant communities.

When a riparian system is degraded, heavy runoff events will move through the riparian zone directly into water flow channels. Fine sediments eventually will fill the channel, altering the shape of the stream. Extreme runoff events can reduce habitat for native species, and the water

table can be lowered by the degradation and eventual disappearance of the native riparian species. Degradation of the native plant community can create a fire risk by increasing the occruence of invasive plant species such as Russian thistle and Cheat grass. Furthermore, stream sides lose their ability to buffer and protect streams, resulting in damage to aquatic habitat, increased soil erosion and loss of aesthetic appeal.

The soil within the proposed project area has been disturbed during several previous installations of pipelines and fences. Addionally the area has been trampled continually for several years, which has removed the vegetation and soil holding capability.

Environmental Consequences

Proposed Action

Installing the new fence and preventing the continual trampling of the spring, would allow vegetation to regrow within the riparian area and provide stability to the soil. Soil outside of the fence would continue to be trampled by animals traveling to the water to drink, but the soil within the riparian area would be allowed to stabilize.

No Action

The soil would continue to be trampled, compacted and removed of all herbaceous vegetation. Surface soil would be lost during high wind and heavy runoff events.

Cumulative Effects

Construction of the pipeline and fence would temporarily disturb approximately 2 acres of soil substrate. The effects of installing the pipeline and fence would be temporary. By moving the water trough closer to the spring box, wild horse travel would change. Once the fence is completed, trampling inside of the enclosure would be greatly reduced. The trampling would be concentrated around the new trough location.

3.4 Wild Horses and Burros

Affected Environment

The allocation of forage for wildlife, wild horses, and livestock was established through a Final Multiple Use Decision (FMUDs), which set the AUMs for each category. The FMUD for the Wassuk HMA (which encompasses the project area) was signed in 1997 and allocations of forage were provided for wild horses, livestock and wildlife. During the summers of 2010 and 2011, the BLM conducted field investigations within the Wassuk HMA to determine the level of forage utilization attributable to wild horses. Monitoring data was collected using the Range Utilization Key Forage Plant Method. Species for which BLM collected utilization data were Indian ricegrass (*Achnatherum hymenoides*), needlegrass (*Stipa spp.)* and Sandberg bluegrass (*Poa secunda*). Heavy (61-80 percent) utilization of forage by wild horses has been documented within the Wassuk HMA (64% in 2009 and 67% in 2010). The heavy utilization of forage by wild horses is based on the following: observation of wild horses in the area where data was collected; observed presence or absence of horse sign (hoof prints and feces); and utilization of key forage species.

The Appropriate Management Level (AML) is the range within which a wild horse population can be maintained for the long-term based on habitat suitability and monitoring data (adaptive management). The AML sets a maximum number of wild horses which results in a thriving natural ecological balance and avoids deterioration of the range (BLM 2010).
A population inventory was completed for the Wassuk HMA in June of 2011. A total of 519 horses were counted during the aerial inventory. The Wassuk HMA has a relatively high rate of wild horse population increase, at approximately 20 percent annually. The current population is estimated to be around 623 wild horses for the Wassuk HMA which includes 2012 foals.

Current conditions of vegetation and water sources on the HMA (evidenced by monitoring and site visits by BLM staff) are worsening due to drought conditions being experienced in the State. The number of wild horses on this HMA exceeds the AML by over 350%. Excess numbers of wild horses are contributing to over utilization of the vegetation as evidenced by heavy use in most areas of the HMA (that are accessible to wild horses) solely attributed to wild horse use as there has been no livestock grazing for at least 10 years in these areas due to the lack of available forage and water. Vegetation shows heavy and severe utilization by wild horses and the water resources/springs in the area indicate heavy degradation from trampling as well. The drought conditions along with the overpopulation of wild horses are contributing to the overall decline of rangeland and wild horse health in this HMA.

Diet and Dietary Overlap With Other Species
Wild horses are not alone in their dietary needs on the range, which they share with many other ungulates also looking for forage. Because of physiology, wild horses primarily eat native bunchgrasses when available; consequently due to different food preferences, diet overlap between wild horses, deer, and pronghorn rarely reaches above 20% (Hubbard and Hansen 1976, R. Hansen, R. Clark, and W. Lawhorn 1977, Meeker 1979, Hanley and Hanley 1982). Dietary overlap of wild horses with desert bighorn sheep has been documented around 50% when averaged throughout the year (Hanley & Hanley 1982, Hansen et al. 1977).

The dietary overlap between wild horses and cattle is much higher, and averages between 60 and 80% (Hubbard and Hansen 1976, R. Hansen, R. Clark, and W. Lawhorn 1977, Hanley 1982, Krysl et al. 1984, McInnis and Vavra 1987). Although horses and cattle are often compared as grazers, horses have been cited as more destructive to the range than cattle due to their digestive system and grazing habits. Horses are cecal digesters, unlike most other ungulates including cattle, pronghorn, and others, which are ruminants (Hanley and Hanley 1982, Beever 2003). Cecal digesters do not ruminate, or have to regurgitate and repeat the cycle of chewing until edible particles of plant fiber are small enough for their digestive system. Ruminants, especially cattle, must graze selectively, searching out digestible tissue (Olsen and Hansen 1977). Horses, however, are one of the least selective grazers in the West because they can consume high fiber foods and digest larger food fragments (Hanley and Hanley 1982, Beever 2003).

Wild horses can exploit the high cellulose of graminoids, or grasses, which have been observed to make up over 88% of their diet (McInnis and Vavra 1987, Hanley 1982) when available. However, this lower quality diet requires that horses consume 20-65% more forage than a cow of equal body mass (Hanley 1982, Menard et al. 2002). With more flexible lips and upper front incisors, both features that cattle do not have, wild horses trim vegetation more closely to the

ground (Symanski 1994, Menard et al 2002, Beever 2003). As a result, areas grazed by horses may retain fewer plant species than areas grazed by other ungulates.

However, native plant communities can only sustain a certain level of grazing utilization. The upper limit of the AML range is the maximum number of wild horses that can be maintained within an HMA to achieve a thriving natural ecological balance and not adversely impact the plant community in combination with other multiple uses such as wildlife and livestock grazing. By maintaining wild horse population size within the AML, there would be a lower density of wild horses across the HMA, reducing competition for resources and allowing wild horses to utilize their preferred habitat. Maintaining population size within the established AMLs would be expected to improve forage quantity and quality and promote healthy populations of wild horses in a thriving natural ecological balance and multiple use relationship on the public lands in the area. Deterioration of the range associated with wild horse overpopulation would be avoided. Managing wild horse populations in balance with the available habitat and other multiple uses would lessen the potential for individual animals or the herd to be affected by drought, and would avoid or minimize the need for emergency gathers, which would reduce stress to the animals and increase the success of these herds over the long-term.

Water

As with many other wildlife and domestic species living in arid environments, the availability and location of water is critical not only for survival, but for habitat utilization (BLM 2002). Wild horses have been observed to travel great distances to and from water daily, and during dry summer months when less water is available from seasonal sources, horses remain slightly closer to perennial water sources than in the winter and spring (Ganskopp and Vavra 1986, R. Hansen, R. Clark, and W. Lawhorn 1977). They prefer to drink during the first part of daylight or the last, and were not observed to linger at the water source (Ganskopp and Vavra 1986).

Horses have been found to have some effect on the frequency of use of a water source by other wildlife in arid environments. One study found that in areas where bighorn sheep and horse water sources overlapped, the higher the frequency of horse use led to lower frequency of bighorn sheep use, and vice versa (Ostermann-Kelm et al. 2009).

Home Range/Habitat

Wild horses generally move widely both daily, usually between water sources, as well as seasonally, seeking higher elevations during summer months and at times when it is necessary to minimize threats to their safety by enhancing their view of the surrounding area (Ganskopp and Vavra 1986, Beever and Herrick 2006).

Environmental Consequences

Proposed Action

Under the proposed action, there would be a direct benefit to the wild horse population by providing clean drinking water located a safe distance from the enclosure fence. Improving the enclosure with materials less hazardous to the horses should reduce the chances of horse being entangled in wire causing cuts and fatalities. There would also be indirect beneficial impacts as the health, vigor, recruitment, and production of native vegetation and the riparian system should improve following implementation of the proposed improvements.

Soil site stability, hydrologic function, and the biotic integrity for Summit Spring should improve the ecological site's capacity for the capture, storage, and safe release of precipitation, the conversion of sunlight to plant matter, and the recycle of nutrients through the natural environment.

No Action
The no action alternative would not repair and/or allow for the effective maintenance of the riparian area fence. The water would not be piped to a trough located outside the riparian boundary and horses would continue to drink from the small stream within the enclosure. Horses would continue to injure themselves on the fence. The water quality and riparian vegetation would continue to degrade.

Cumulative Effects
Past actions include original construction of the fence, two separate pipeline installations with troughs, and maintenance on the fence and pipelines. Present actions include constant horse traffic to and from the spring for water. Reasonably foreseeable actions consist of a horse gather within the Wassuk HMA and the return to manageable and responsible livestock grazing and watering around the enclosure and riparian zone. The proposed action is expected to benefit or maintain all resources present at this location.

3.5 Cumulative Effects Overview

The purpose of the cumulative impacts analysis for the proposed action is to evaluate the combined, incremental effects of human activity within the scope of the project. Council of Environmental Quality (CEQ) regulations define scope to include connected actions, cumulative actions, and similar actions (40 Code of Federal Regulations (CFR's) 1508.25). Approximately 2 acres of public land are proposed within the range improvement project area; therefore the reasonable scope of the cumulative analysis would be restricted to connected, cumulative, and similar actions to the Proposed Action within the project area. The Council on Environmental Quality formally defines cumulative impacts as follows:
'...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time' (40 CFR 1508.7).

3.6 Past and Present Actions

Past Actions
The CRMP designated the Wassuk HMA and established interim herd sizes. The HMA has been utilized by domestic livestock since the area was settled over 100 years ago. The BLM instituted structured and organized administration of domestic livestock use of the public lands in this area in the 1960's. Some changes have been made to the livestock management within the Black Mountain, Butler Mountain and Gray Hills Allotments through a FMUD issued September 5, 1997.

Historic wild horse, domestic sheep and cattle use have occurred throughout the project area. Other activities that have occurred within the project area include recreation, mineral exploration, and invasive weed treatment.

Present Actions

Currently, the Wassuk HMA wild horse population is estimated to be 623 wild horses. This population currently exceeds the established AML, and a substantial portion of the Wassuk HMA population resides outside of the HMA boundary. Permitted livestock use is the primary use that occurs within the associated Allotments in addition to the use by wild horses and wildlife. However, due to the lack of forage and water resources within these areas, currently there has not been any livestock grazing occurring within the HMA for the last 10 years. In recent years, wild horses have begun to wander into adjacent areas outside the HMA boundary and have reduced levels of forage and water available for livestock grazing in these allotments as well.

A Rangeland Health Evaluation is currently being conducted on the all of the grazing allotments in the Wassuk Mountain Range. The area evaluated is bordered by Forest Service and the town of Yerington NV on the south and west, Highway ALT 95 on the north, Highway 95 and Hawthorne NV on the East. The area encompasses 10 allotments with 7 grazing permits associated with those allotments. Once complete, data is collected and analyzed, S&Gs would be evaluated and if necessary, changes to livestock and wild horses use would be recommended and implemented through decisions, following consultation with the interested public.

3.7 Reasonably Foreseeable Future Actions

Future activities which could occur include adjustments to livestock grazing numbers or season of use, water developments, spring enclosures, and mineral exploration activities. The future may also involve further adjustments (increases or decreases) to the AML of the Wassuk HMA and the development of a Herd Management Area Plan. Additional activities, dependent upon funding, would include implementing the final EA for the Wassuk Herd Management Area Wild Horse Gather Plan (DOI-BLM-NV-C010-2012-0061-EA). The Wassuk Herd Management Area Gather Plan would initially remove 250 excess wild horses from the range. Subsequent gathers over a 10 year period would be implemented to active and maintain a population level of 110 head of wild horses (low AML).

The BLM would continue to conduct monitoring to assess progress towards meeting Sierra Front Northwestern Great Basin S&Gs, Rangeland Health Standards and RMP objectives.

The CCDO is in the process of updating and revising the CRMP. Actions in this updated plan could include changes to HMA designation or allocation, implementation of SOPs for management of these populations, and identification of tools to use for population control. The RMP Revision process includes involvement with the interested public. Information about this process can be found on the RMP Revision website at: https://www.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=22652&dctmId=0b0003e88020e137.

3.8 Monitoring

Annual field visits are planned to inspect the condition of the range improvement, and to perform normal maintenance on the fence and pipeline when needed.

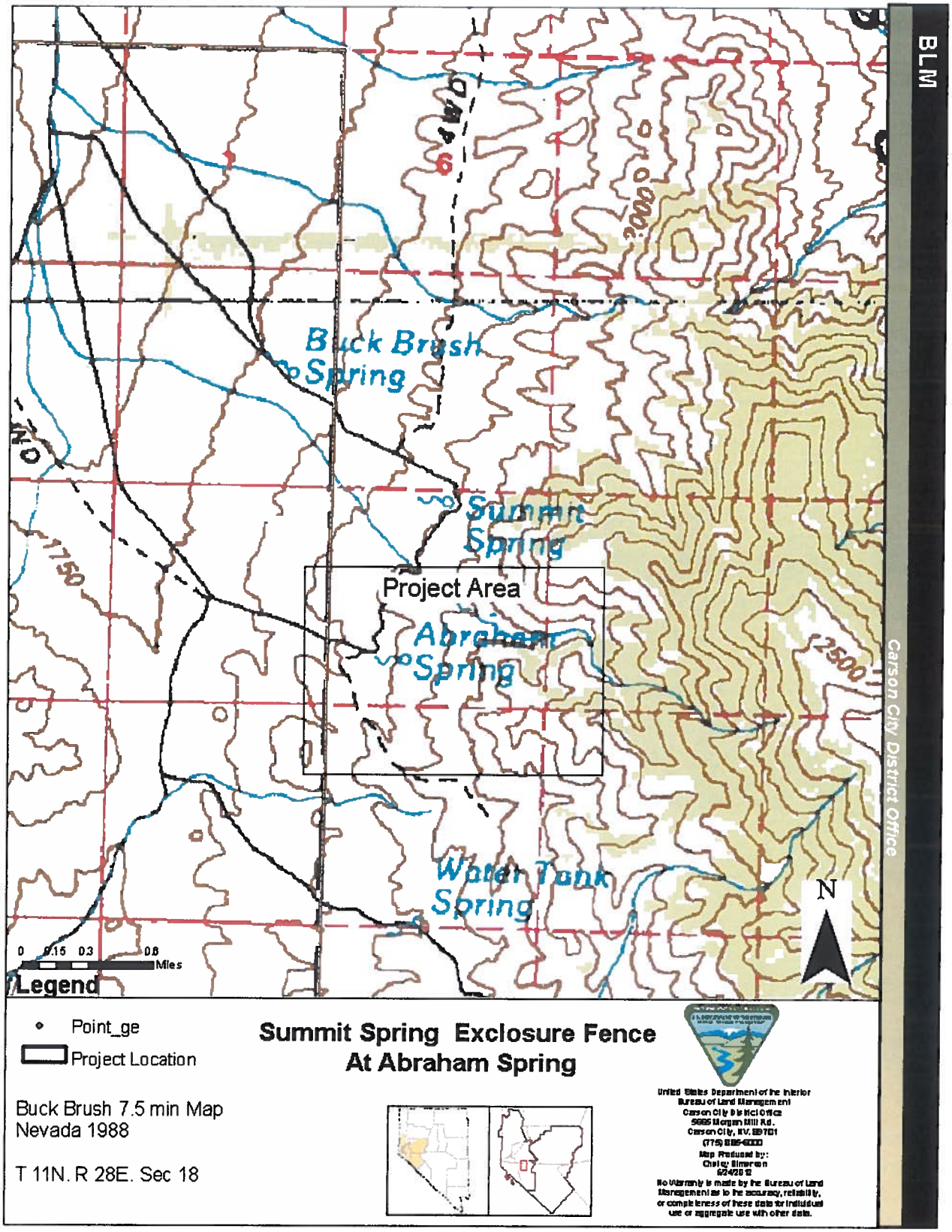
4.0 PERSONS, GROUPS OR AGENCIES CONSULTED

4.1 List of Preparers - BLM Stillwater Field Office Resource Specialists

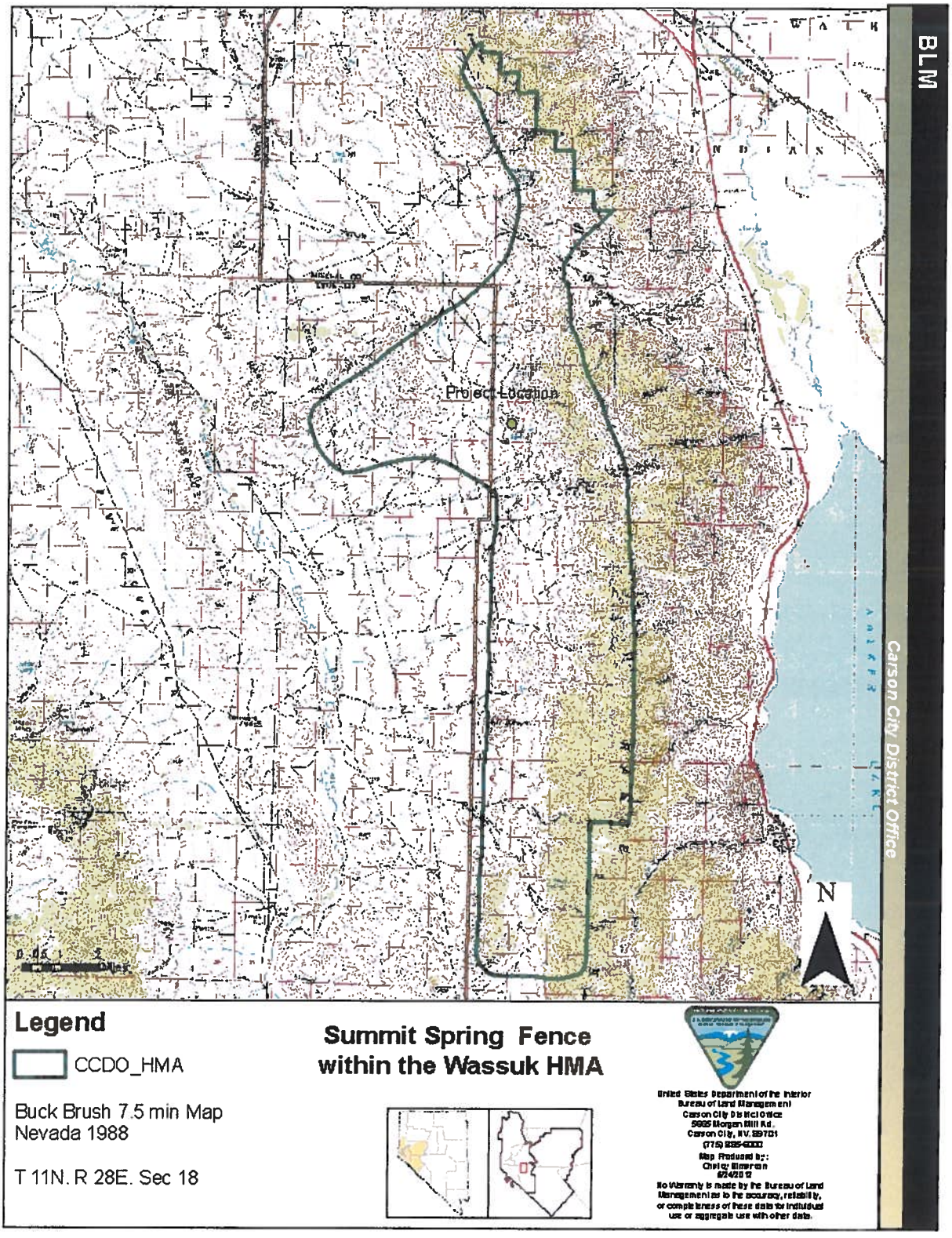
NAME	TITLE	PROJECT EXPERTISE
Chelsy Simerson	Rangeland Management Specialist/Soil, Water and Air	Project Lead, Range & Soil, Air and Water
Susan McCabe	Archaeologist & Native American Coordination	Cultural
Jill Devaurs	Rangeland Management Specialist/ Noxious and Invasive Weed Specialist	Noxious and Invasive, Non-native Species
Dan Westermeyer	Recreation Specialist	Recreation
Steve Kramer/ Angelica Rose	Planning and Environmental Coordinator	Environmental Justice/ Socioeconomics
Linda Appel	Wild Horse and Burro Specialist	Wild Horse and Burros
John Wilson	Wildlife Management Specialist	Wildlife, Special Status Species, Migratory Birds
John Neill	Renewable Resource Supervisor	
Terri Knutson	Stillwater Field Office Manager	

Appendix A

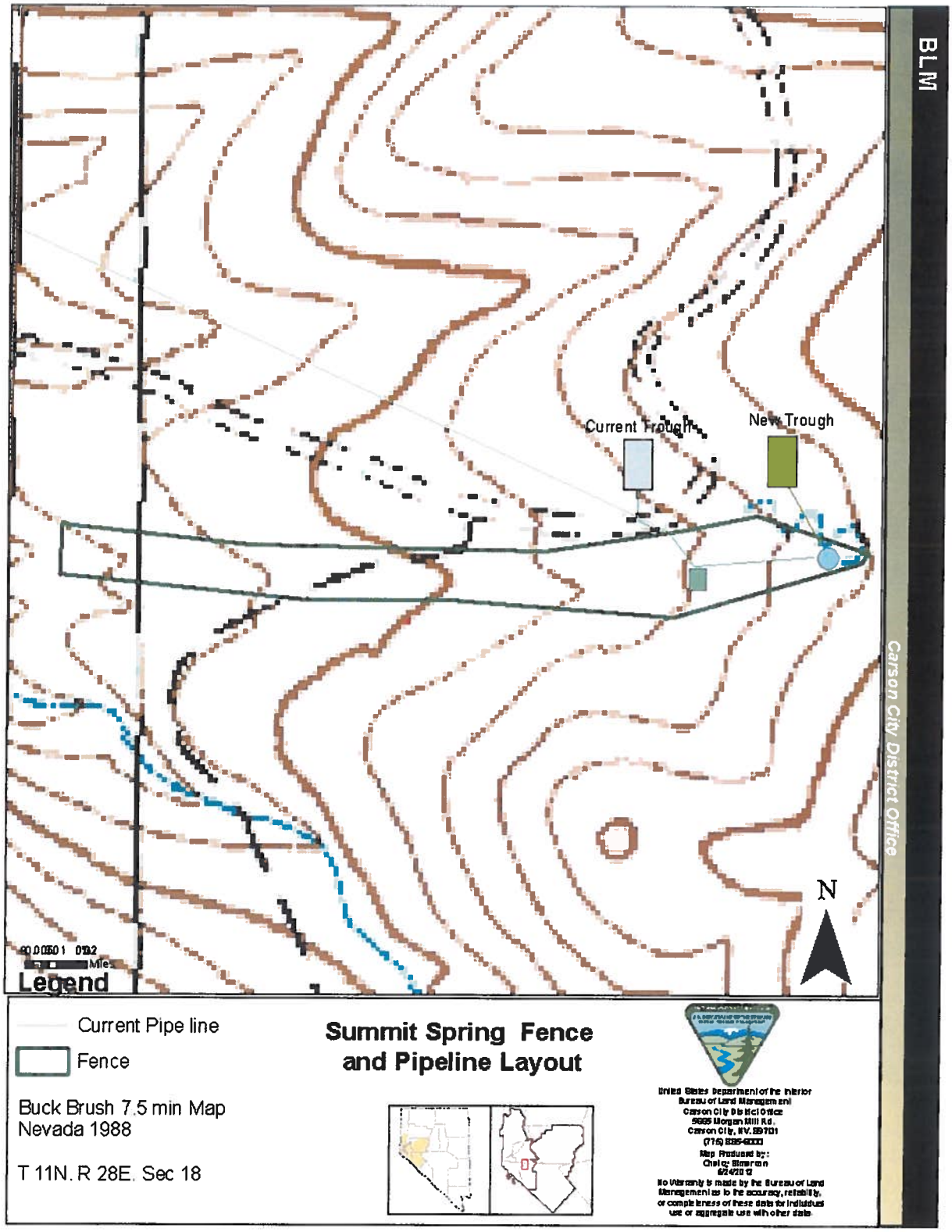
Map 1 Project Area



Map 2 Project location within the Wassuk HMA



Map 3 Current Fence and Pipeline layout and New Location of Trough



Appendix B

List of Acronyms

AML	Appropriate Management Level
AUM	Animal Unit Month
BLM	Bureau of Land Management
CCDO	Carson City District Office
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CRMP	Carson City Field Office Consolidated Resource Management Plan
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FONSI	Finding Of No Significant Impacts
FLPMA	Federal Land Policy and Management Act
FMUD	Final Multiple Use Decision
FY	Fiscal Year
GAO	Government Accountability Office
HMA	Herd Management Area
ID	Inter-Disciplinary Team of BLM specialist
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NRCS	Natural Resource Conservation Service
NV	Nevada
NVCRIS	Nevada Cultural Resource Information System
PFC	Proper Functioning Condition
PI	Project Inspector
PRIA	Public Rangelands Improvement Act
RMP	Resource Management Plan
ROD	Record of Decision
S&G	Standards for Rangeland Health and Guidelines
SFO	Stillwater Field Office
WFRHBA	Wild Free-Roaming Horse and Burro Act

Appendix C

List of References

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